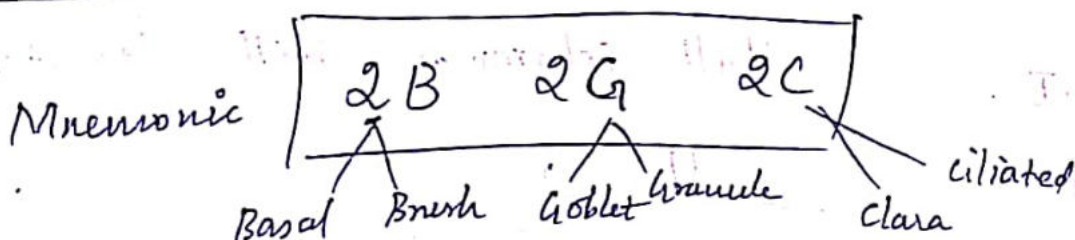


Respiratory Tract:

⑥ types of cells in lining epith

- i) ciliated cells.
 - ciliated columnar
 - " cuboidal
 - pseudost. ciliated column
- ii) Goblet cells.
- iii) Brush cells. (Non ciliated with BLUNT microvilli)
- iv) Granule cells. (endocrine cells of Diffuse Neuro-endocrine System DNES)
(Kulchitsky cells)
- v) BASAL cells
(squeezed at bottom) $\Rightarrow$ Stem cells $\Rightarrow$ gives rise to all others.
- vi) Clara cells: (Release Surfactant)

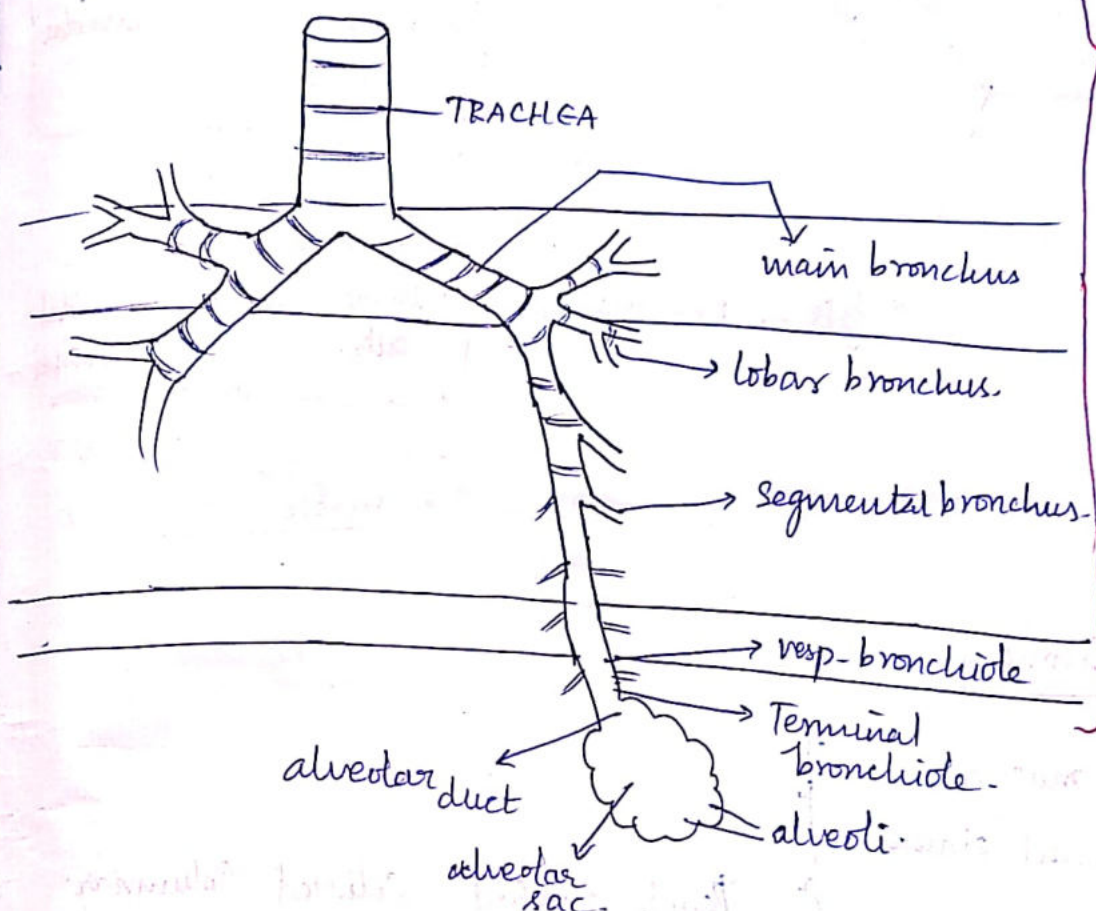


Vestibule of Nasal cavity



STRATIF. Squamous epith

I) Nasal mucosa, paranasal air sinuses
& larynx.



Pseudo stratified.
CILIATED
COLUMNAR
epith
with goblet
cells.
EXCEPT
Vocal folds
& lingual
surface of
epiglottis.
(STRATIF.
Squamous
epith).

II) Large Bronchiole → pseudost. & ciliated Columnar epi
↓
Small bronchiole (Terminal ") → ciliated Columnar epi (No goblets)

CLARA CELLS → replaced by

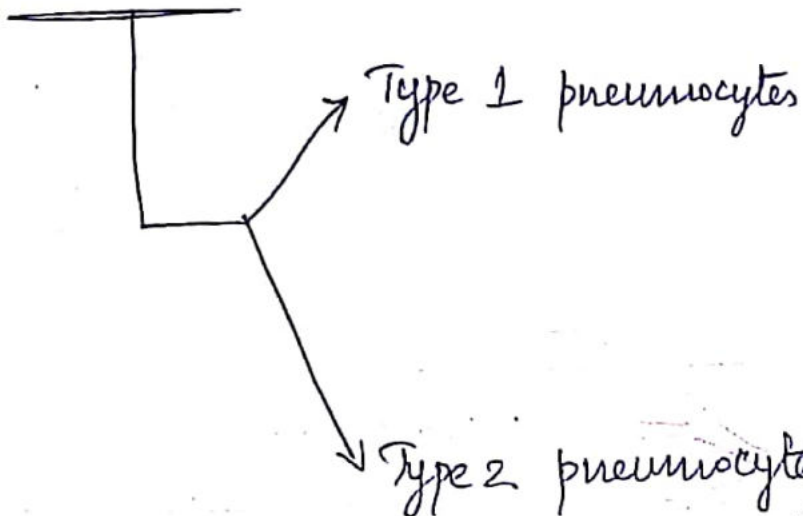
- * non-ciliated cuboidal cells
- * Dome shaped apical surface.
- * surfactant which prevents collapse of Terminal bron.

Resp. bronchiole.

→ (ciliated → Non ciliated CUBOIDAL epi)

↓
gaseous
exchange

III) Alveoli



- Thin squamous cells
- covers - 95% of alveolar surface

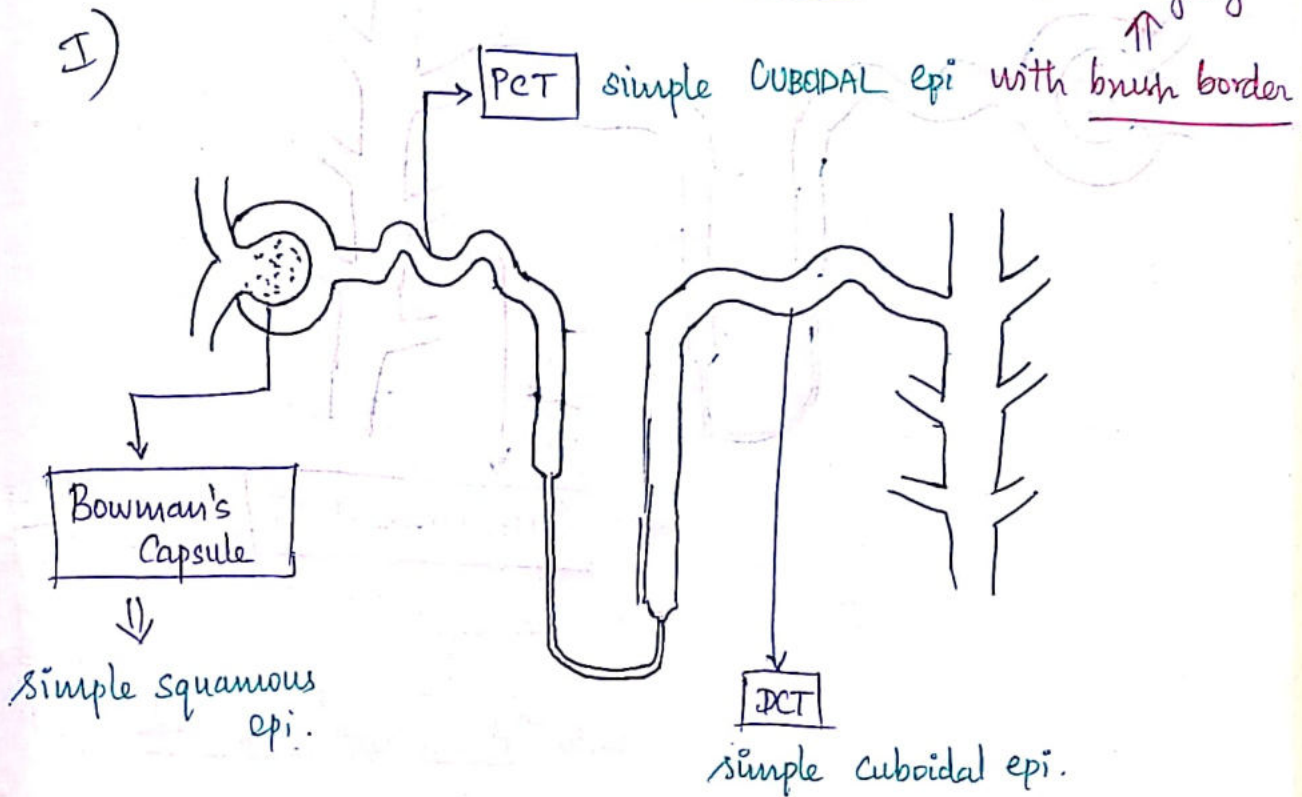
- large rounded cuboidal cells.
- 5% of alveolar ^{surface} cells.
- microvilli on apical surface
- secretes Surfactant

Summary:

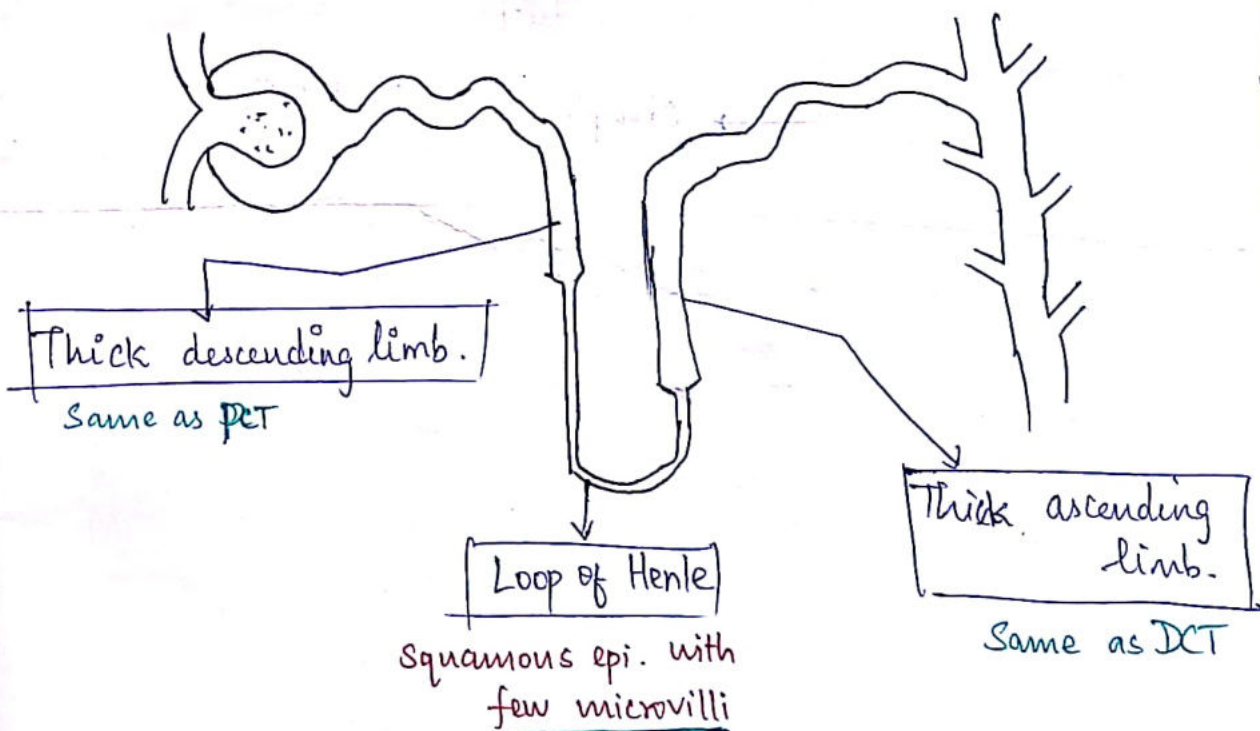
- | | | |
|------------------------|---|--|
| Nasal mucosa | } | Pseudo stratified ciliated Columnar epithelium |
| paranasal sinuses | | |
| Larynx. | | |
| Trachea | | |
| Bronchus. | | |
| Proximal bronchiole. | } | ciliated cuboidal epithelium (No goblet cells) |
| Terminal bronchiole | | |
| Respiratory bronchiole | | |
| Alveolus | | |
- Alveolus → simple squam cells.

URINARY SYSTEM:

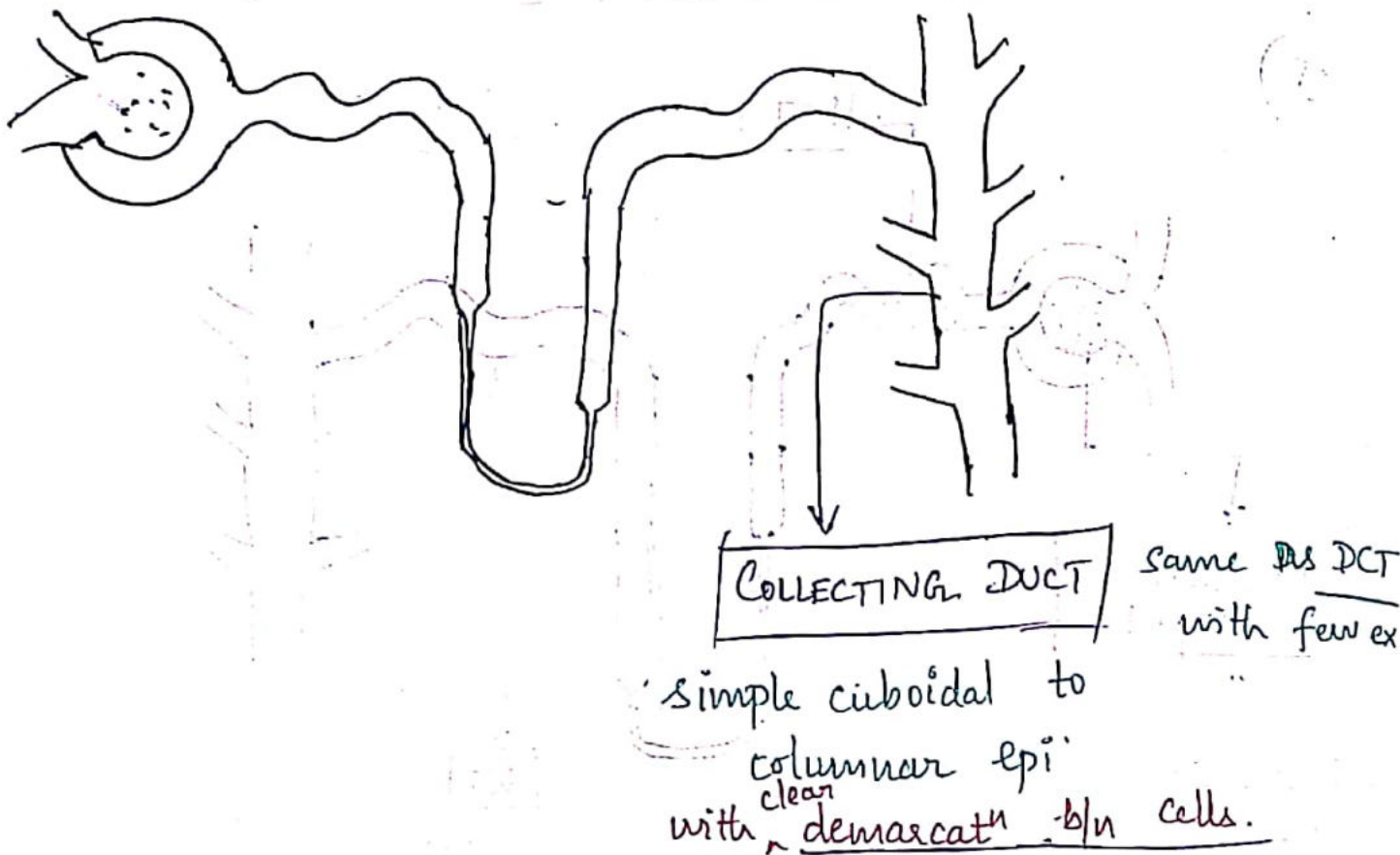
lumen is gazy
↑↑



Note: lumen of PCT $\gg$ DCT but due to brush border in PCT, lumen is gazy



Note: Diameter of L.O.H $\approx$ Venule.

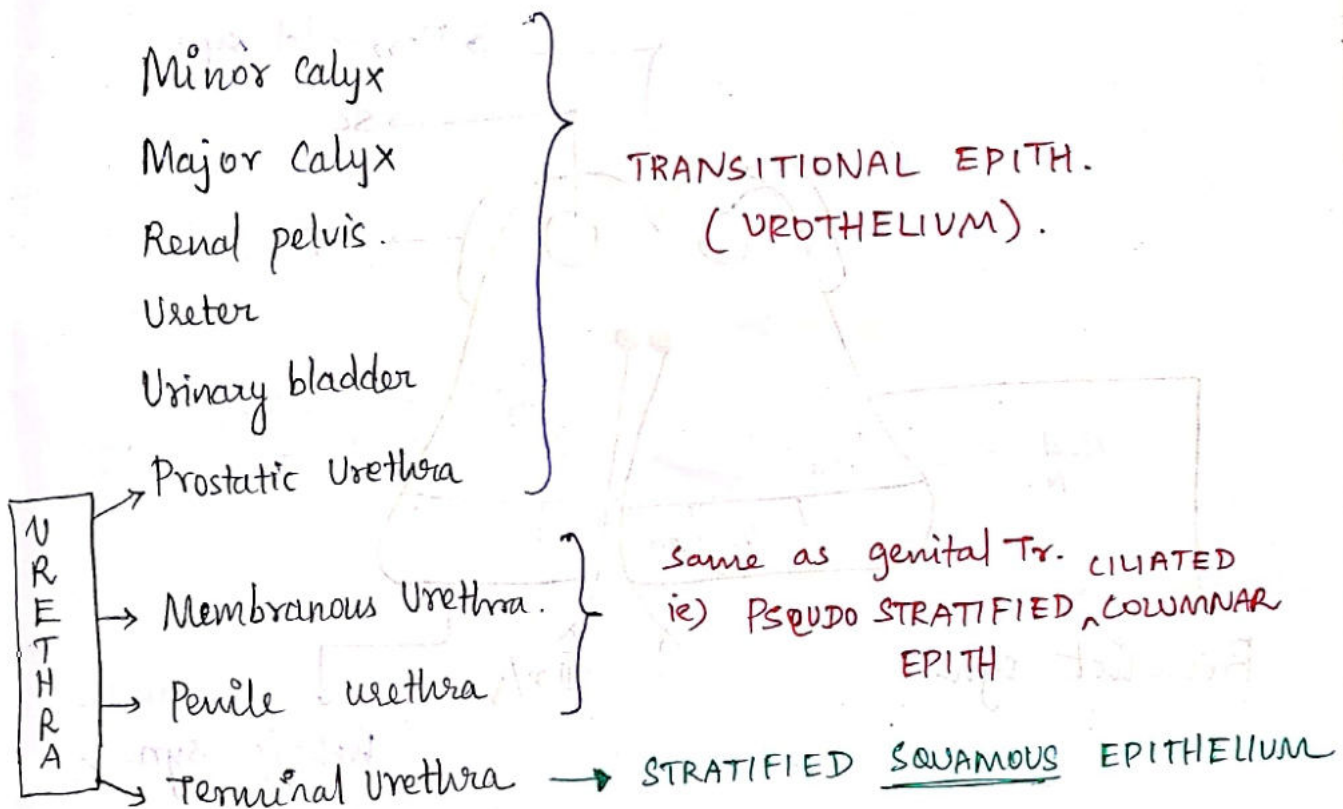


Note:

Duct of Bellini $\Rightarrow$ most distal part of collecting duct.

$\rightarrow$ simple cuboidal epi.

II) Remaining Urinary system



Summary

- * Bowman's capsule → Simple Squam. epi
 - * PCT → Simple CUBOIDAL epi. with Brush border
 - * Thick descending limb → same as PCT
 - * Loop of Henle (Thin limb) → squamous epi with few Microvilli
 - * Thick ascending limb → same as DCT
 - * DCT → Simple CUBOIDAL epi. (No brush border)
 - * collecting duct → Simple CUBOIDAL to COLUMNAR
 - * Minor, Major calyx.
 - * Renal pelvis & Ureter
 - * U.B.
 - * Prostatic Urethra
 - * memb. urethra.
 - * Penile Urethra
 - * Terminal Urethra → Stratif. Squam. epith.
- TRANSITIONAL epi / UROTHELIUM
- Pseudost. ciliated columnar (same as genital Tr.)